



### 53.6M DIVING AUXILIARY WORK VESSEL

#### The main performance parameters of the vessel

##### General

The sea steel self-propelled vessel, with the forecastle, the deckhouse which is forward to a wheelhouse of the circular review.

The engine room is located in a bow.

The diving vessel is intended for performance of all types of diving operation at a depth up to 60 m.

##### Main dimensions

LOA	53.6m
LBP	50.0m
BREATH	16.0m
DEPTH	5.0m
DRAFT LWL	3.0m
DISPLACEMENT LWL	1604.8t
LIGHT SHIP	1056t

Class - Russian Maritime Register of Shipping

KM Ice3 [1] R2 Aut1-ICS DYNPOS2 EPP SDS<60 Diving vessel

Class - ABS (American Bureau of SI)

+AI (E) +AMS Caspian Sea +ACCU Diving vessel NIBS +DPS-2 ES

Diving System DFD

Service speed	12Knot
Main Generator	3x1900 kWt
Aux. Generator	2x200 kWt
Crew	17 per.
Cabin	19 pcs.
Diver	15+10 per.
Diver cabin	16+10per.

##### Navigation area

Navigation area – limited R2 (marine area from port not less 100miles and between ports not less 200 miles);

The operation area – Caspian Sea.

Accept the temperature: external air, from -25 C to +50 C; sea water (external board), from 2 C to +27 C.

##### Hull Materials

The hull and the deckhouse of the designed vessel is supposed, will make of ship-building steel for the navigation area of R2. Ambient temperature, outside water, are accepted according to Section 1.4. this specification. The stock on corrosion wear is accepted proceeding from the planned service life (estimated service life) 24 years.

As material of the main hull ship-building steel of normal durability of category PC A with a fluidity limit is accepted 235MPa.

##### Main electric propulsion plant (EPP)

EPP of the Vessel to consist of following main equipment:

- 3 off Main generators, each 1900kW;
- 1 off Main switchboard;
- 2 off Frequency converters for propulsion motors;
- 2 off propulsion motors, each 800kW;
- 2 off Frequency converter for fwd. thrusters motor;
- 2 off Fwd. thruster motor, 2x500kW;
- Control system of MP, RP and BT.

##### Auxiliary propulsion plant

Auxiliary propulsion plant arrangement to bow, consist two diesel generators.

Diesel generator start from electric starter. Power supply starter from ER location battery. Lube oil system – circulating. Cooling system two circuit.

##### Propellers

The designed vessel will provide two azipod system. The turn azipod 360 . Two outboard fixed pitch propellers shall be supplied, with two rudders behind. Propellers shall be in Ni-Al bronze or equal with stainless steel bolts.

##### Diving equipment

The designed vessel, for provide diving operation under 60 m, will provide the next diving equipment will correspond the "IMCA" and class rules:

- Diving gazebo – 2piec.;
- Davit for gazebo – 2piec.;
- Diving ladder – 2piec.;
- Welding post;
- Hospital;
- Two compartments chamber (work pressure – 10bar, internal diameter – 1500mm, chamber compressed speed – 40-50m/sek.);
- Air and oxygen sheet; - The chamber operation sheet;
- The chamber conditioning system;
- Air panel for 3 divers;
- Electric equipment panel for 3 divers (divers video system for 3 divers – 3 sets, communication equipment for 3 divers – 2 set, gear for electric current shutdown, etc.);
- Flight recorder;
- Communications systems;
- Video systems;
- Wheelhouse and CCR communications systems;
- Battery with charging panel (UPS), for power main equipment;
- 5 components 150m length diving hose-cable – 2piec.;
- 5 components 155m length diving hose-cable – 1set.;
- Diving helmet "KM-37" – 3set.;
- Diving mask "KMB-28" – 1set.;
- Diver heater system (elektrik heater – 2piec., 500l. container – 1piec.);
- Sea water pumps (for diver heater system) – 2piec.;
- HP air compressor (200bar) – 2piec.;
- LP air compressor (12bar) – 1piec.;
- Air cylinders 700m3 (250liter cylinder);
- Health oxygen cylinders 90 m3;
- Electric welding apparatus – 1piec.;
- Electric hydraulic station – 1piec.;
- 50l oxygen cylinders – 10piec.;
- In designing vessel will provide the diving rescue boat. In boat set, 4pies 50l oil cylinder, air panel, horns for 2 set HCC, 2 set 60-meter 4 - component HCC, 1set under water video system for 2 divers, 2 set diving helmet "KM-37" and diving ladder.

##### ROV equipment

In operation will installation the mobile ROV apparatus size LxBxT m.: Deep sea ROV apparatus – 1.6x0.9x1.1; Mid class WROV – 3.0x1.9x2.0; It is part ROV complex: ROV control post; ROV module with lifting gear.

##### AOV equipment

In operation will provide the AOV apparatus size L - 2000 mm, - 324 mm. Deepwater operation – 100m It is part AOV complex: AOV control post; AOV apparatus; AOV charging module.

##### External communication

The external communication system is according to IMO and the Flag state requirements on GMDSS equipment and arrangement thereof onboard the ship for sea area A+A+A3.

The operability of GMDSS radio equipment for sea areas A1; A2; A3 are provided by duplication of equipment and shore-based maintenance. Power supply is 230VAC 50Hz. Supply from main, emergency power and standby power supply (24VDC), with automatic changeover.

##### Cargo gear

On the main deck two knuckle cargo cranes (subsea), on both sides, by the maximum cargo capacity - 5t is provided. Depth of immersion of a hook - 60m. Also installations for diving the "KBS-0.75-2.7 a Diving basket set" crane beam, cargo-human execution from both sides.

##### Automation and Control System

The system shall AUT1-ICS Rules of Russian Maritime Register of Shipping (RS) and IMO.

General vessel automation and control system including the following principle subsystems:

- Thruster Control and Monitoring system;
- Vessel Automation system, Power Management, Alarm & Monitoring.
- Each Operator Station shall be a stand- alone unit and be capable of accessing all system monitoring and control functions or accessing conditionally based on operation mode.
- Operator Stations shall be grouped to form complete Control Stations. All Operator Stations within one Control Station shall have the same physical dimensions.

LOA	53.6m
LBP	50.0m
BRBATH	16.0m
DRBATH	16.0m
DISPLACEMENT TWT	3,400
DISPLACEMENT TWT	1604.8t
LIGHT SHIP	1056

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Service speed	12Knot
Main Generator	3x1900 KVA
Aux. Generator	2x200 KVA
Capacity	17 per
Crew	17 per
Diver	15-10 per
Diver cabin	16+10 per

Длина надводная	53,6м
Длина по ватерлинии	50,0м
Идентификация	16,0м
Береговая длина	16,0м
Объем водоизмещения ТМТ	3,400
Водоизмещение	1604,8 т
Водоизмещение легкого судна	1056

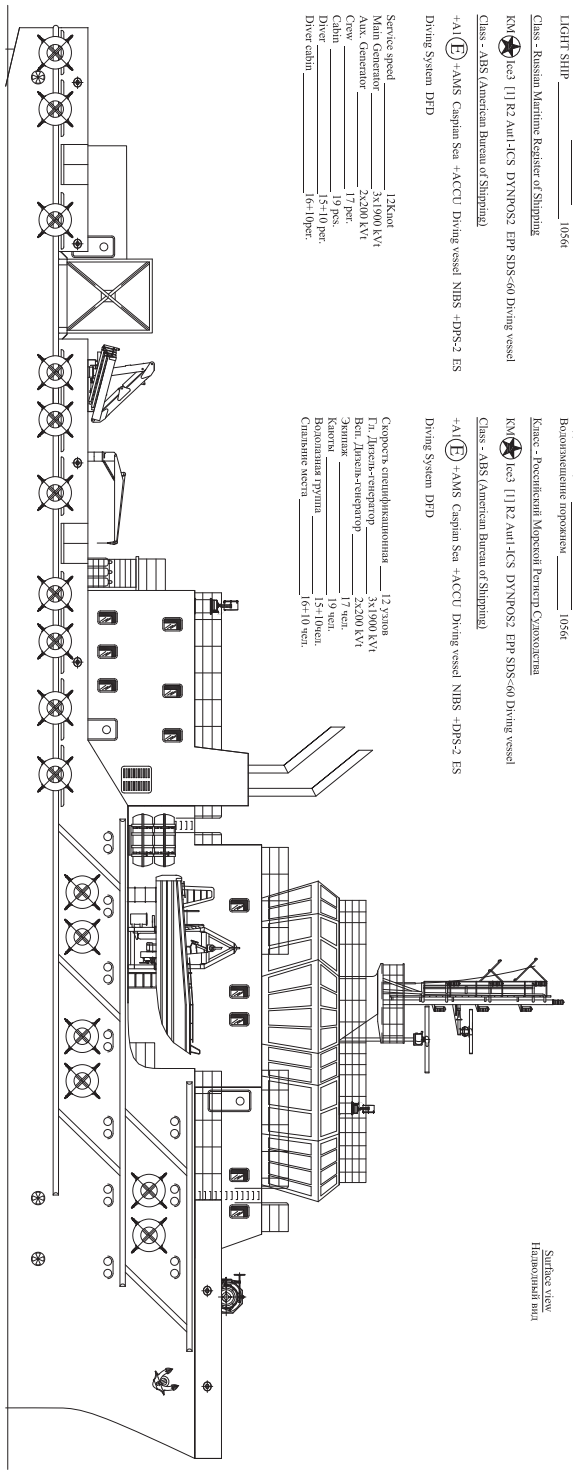
Класс - Российский Морской Регистр Судов

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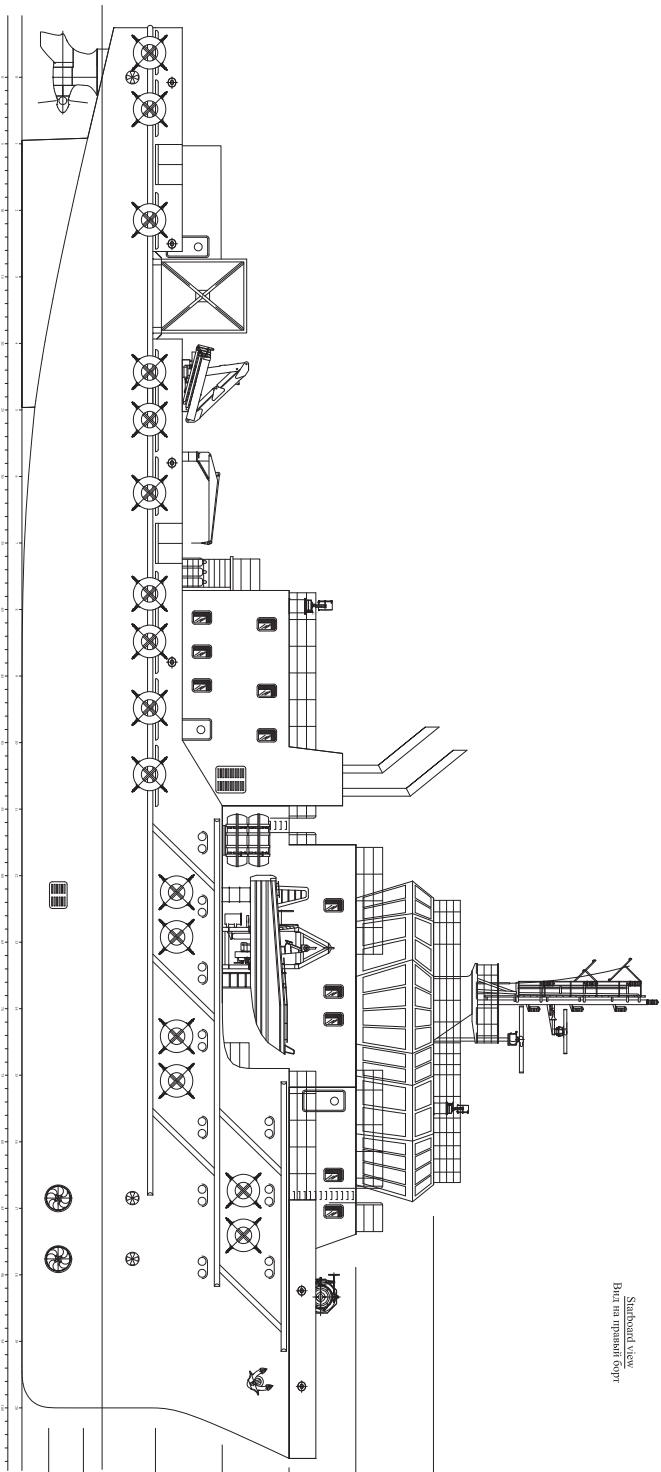
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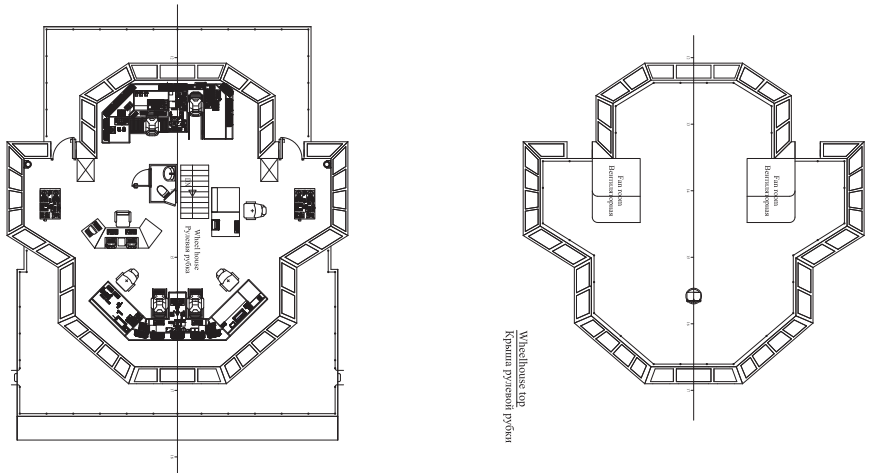
Скорость хода	12 уз
Эл. Генераторы	3x1900 KVA
Всп. Генератор	2x200 KVA
Емкость	17 чел
Экипаж	17 чел
Количество водолазов	15-10 чел
Количество кабинок водолазов	16+10 чел



Surface view  
Наводный вид



Starboard view  
Вид на правый борт



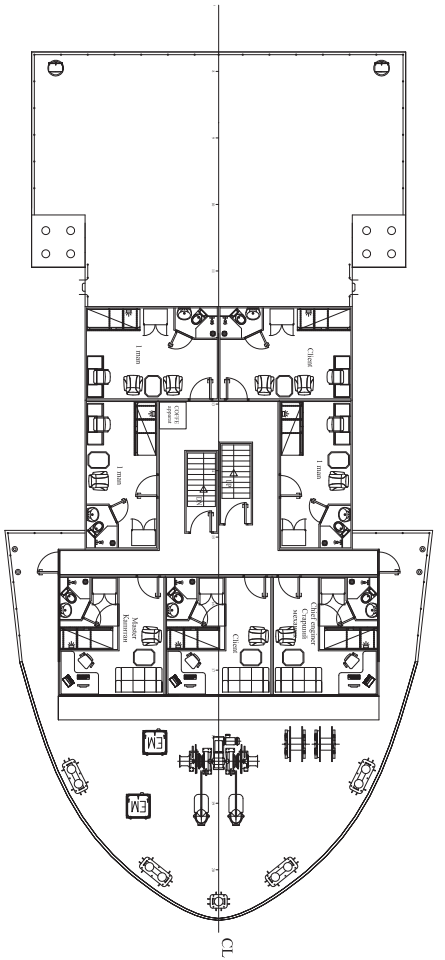
Wheelhouse top  
Крыша пиротной палаты

Wheelhouse deck  
Палуба пиротной палаты

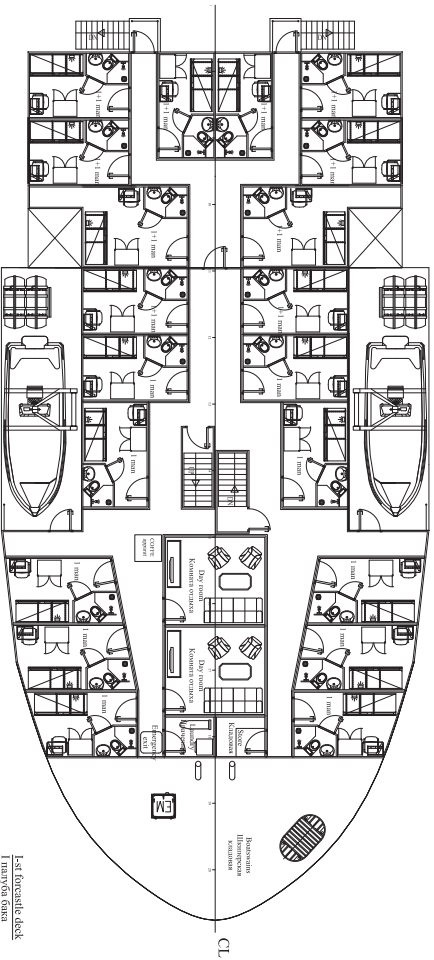
- Wheelhouse deck  
Палуба пиротной палаты
- II-4 forecastle deck  
II палуба носовая
- I-4 forecastle deck  
I палуба носовая
- Main deck  
Главная палуба
- Platform  
Платформа
- Tank top  
Крыша цистерны
- Bowstop area  
Область носового упора

Responsible entity Исполнительная организация	Technical reference Техническое задание	Diving vessel Подводное судно	General type Общая конструкция	Approved by Утверждено	Scale Масштаб
	Sub-assembly drawing Чертеж узла		Document type Тип документа	Revision status Статус ревизии	1:100
Title Наименование		1550b - ASCO - 004		Rev1 Data issue final issue	
Date Дата		01.27.10.2023		AZ 1.3	
Format A1					

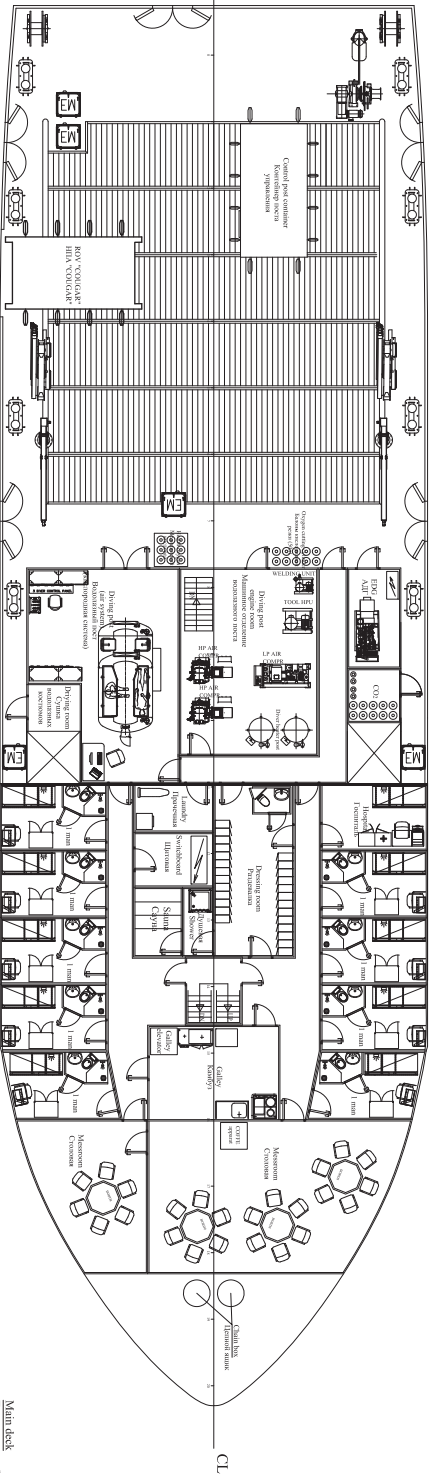




1st forecastle deck  
Ilmanysty kama



1st forecastle deck  
Ilmanysty kama



Main deck  
Ilmanysty kama

Responsible design	Technical reference	Drawing vessel	Scale
Task manager group	System Administrator	Created by	1:100
		Document type	Document status
		Sub-assembly drawing	Released
		Title	13500 - ASCO - 004
		General arrangement	Rev1 Data issue final/Issue
		(Basic design)	01   20/06/2023   AZ 2/3



